

ABSTRACT

LOW EMISSIVITY, HIGH REFLECTIVITY INSULATION

A multi-layer flexible insulation (I) comprises a series of layers which include a pair of closed-cell insulation sheets (10,12) made of multicellular plastic film (i.e. closed cell air bubbles or bubble-pack) and laminated on both sides of a thin white polyethylene film (14), a pair of aluminum foil layers or films (16,18) adhesively mounted on the outer surfaces of the bubble-pack insulation sheets (10,12), and a pair of thin clear polyester layers (20,22) provided on the outer surfaces of the aluminum layers. The aluminum layers (16,18) are vapor deposited on the polyester layers (20,22) and are assembled to the hot bubble-pack insulation sheets (10,12) while the latter are cooled. The bubble-pack sheets (10,12) are then adhered to the central polyethylene film (14) with a hot melt glue. If the polyester (20,22) is highly smooth, the aluminum (16,18) can be deposited thereon in a uniform state thereby providing a high reflectivity, low emissivity, laminate. The outer polyester coatings (20,22) also protect the aluminum layers (16,18) such as to prevent any aluminum from rubbing off the insulation (I) and also prevent the aluminum layers (16,18) from oxidizing. Furthermore, the polyester coatings (20,22) provide an hygiene barrier for the insulation (I).